STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF SITE REMEDIATION
291 Promenade Street
Providence, R.I. 02908-5767

May 15, 1995

Debrorah Carlson, Remedial Project Manager
U.S. Department of the Navy, Northern Division
Naval Facilities Engineering Command
10 Industrial Highway
Code 1823-Mail Stop 82
Lester, PA 19113-2090

RE: Addendum B Draft Plan for Offshore Ecological Risk Assessment for Derecktor Shipyard
Addendum C Draft Plan for Offshore Ecological Risk Assessment for Old Fire Fighter Training Area

Dear Ms. Carlson:

Please find attached comments generated by the Division on the above Work Plans. Certain elements of both Work Plans are essentially the same and as a result have similar comments. Comments which are directed to both Work Plans are delineated with a double citation. Comments unique to a particular Work Plan have one citation.

If you have any questions concerning the comments, please contact me at (401) 277-2797, ext. 7111.

Sincerely,

Paul Kulpa

Paul Kulpa
Division of Site Remediation

cc: Warren S. Angell, DEM DSR
Richard Gottlieb, DEM DSR
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5/19/95 cc: PROJECT FILE
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DRAFT WORK PLAN
FOR THE OFFSHORE ECOLOGICAL RISK ASSESSMENT FOR DERECKTOR SHIPYARD AND THE FIREFIGHTER TRAINING AREA

1. **Addendum B, Section 2.2.1, Contaminants of Concern:**
   Page 10, Paragraph 2.
   Addendum B, Section 2.2.1, Contaminants of Concern:
   Page 13, Paragraph 1.

   "Using a hazard quotient (HQ) approach, chemical concentrations in onshore groundwater and surface soil will be compared with appropriately conservative biological benchmark for those media to identify contaminants elevated above levels presumed to be protective of biological systems."

   Due to the disposal and nature of waste at the site, contaminants in the subsurface should be included in the above. The Division recommends modifying the above as follows:

   Using a hazard quotient (HQ) approach, chemical concentrations in onshore groundwater, surface soil and subsurface soils will be compared with appropriately conservative biological benchmark for those media to identify contaminants elevated above levels presumed to be protective of biological systems.

2. **Addendum B, Sewage Pathogen Analysis:**
   Page 17, Paragraph 2/Table 2-6.
   Addendum C, Sewage Pathogen Analysis:
   Page 20, Paragraph 1/Table 3-6.

   This section of the Work Plan proposes the use of sewage pathogens to fill in data gaps.

   The report should indicate how the proposed pathogens can be used for an ecological risk assessment. This justification for the use of the pathogens should address a number of issues such as, links to food chain models, etc. In addition, it should be noted that even for human health risk, only total and fecal coliform have health standards for shellfish. Furthermore, there is a question as to how the other indicators will be used, even in a human health risk scenario.

   The report should also indicate how the source of the indicators will be determined. All of these indicators are found in typical storm water runoff due to warm blooded animal fecal waste being washed of impervious surfaces, etc. Unless the Navy can demonstrate a clear gradient from the CSO release

site at Goat Island for Total and Fecal coliform, there is a possibility that it may be from runoff the Navy site. Furthermore waste water treatment outfalls are an unlikely sources of Total and Fecal Coliform due to chlorine disinfection, but is likely source for high levels of Clostridium spores. However the latter also occurs in runoff, so one must be cautious in interpretation.

3. **Addendum B, Section 4.1.1, Sediment Sampling Plan:**
Page 18, Paragraph 3.

This section of the report discusses sediment sampling locations.

It is unclear from the information presented how the proposed sampling stations related to the "dead zone" filmed several years ago. It would be critical to ensure that at least one surface and deep core sample be collected from the "dead zone" to characterize the area.

4. **Addendum B Section 4.4.1, Sediment Sampling Plan:**
Page 18, Paragraph 3.
Addendum C Section 4.4.1, Sediment Sampling Plan:
Page 21, Paragraph 2.

"The site is proximate to the Jamestown sewage treatment plant outfall, and thus is an ideal reference site for assessing contaminant impacts in the absence of Navy activities."

The Work Plan indicates that the Jamestown site will be used to determine impacts unrelated to Navy activities. The report should indicate whether contaminants form the Jamestown site enter Coddington Cove. In addition, please be advised that it is not appropriate to use the results from the outfall site to diminish the impact associated with the Navy site.

5. **Addendum B Section 4.4.1, Sediment Sampling Plan:**
Page 18, Paragraph 3.
Addendum C Section 4.4.1, Sediment Sampling Plan:
Page 21, Paragraph 2.

"A second reference site, Castle Hill Cove, has been selected as a baseline unimpacted site with similar characteristics as Coddington Cove, but lacks significant industrial development or nutrient loading."

Please be advised that a permitted sewerage outfall existed at the site approximately three years ago. In addition the site was used by the Coast Guard and there is the potential that contaminants from the Coast Guard Operation is present at the site. Finally please provide a map showing the proposed sample location.

6. **Addendum B, Section 4.4.1, Sediment Sampling Plan:**
Page 19, Paragraph 1.
Addendum C, Section 4.4.1, Sediment Sampling Plan:
Page 21, Paragraph 4.

"At all stations, surficial sediment (0-2 cm) of an undisturbed grab sample is sampled."

Justification is requested for the proposed sampling depth. Surficial sediment samples should be collected from the zone of bioturbidation. Therefore, the Division recommends collecting samples from a depth of at least 0-20 cm. In addition, the Division recommends that the results of the geophysical/hydrological study be used to determine if samples should be collected from greater depths.

7. **Addendum B, Section 4.4.1, Sediment Sampling Plan:**
Page 19, Paragraph 1.
Addendum C, Section 4.4.1, Sediment Sampling Plan:
Page 21, Paragraph 4.

"At all stations, surficial sediment (0-2 cm) of an undisturbed grab sample is sampled."

The Work Plan proposes performing biotoxicity test on surficial sediment samples. The Division recommends collecting at least one sample from the deep core from areas considered heavily contaminated. This test should be done on a highly contaminated core.

8. **Addendum B, Section 4.4.1, Sediment Sampling Plan:**
Page 19, Paragraph 1.
Addendum C, Section 4.4.1, Sediment Sampling Plan:
Page 21, Paragraph 2.

This section of the report discusses the proposed locations of sediments samples. The plan indicates that sediment samples will be used to alleviate data gaps or investigate known areas of contamination.

A number of studies have been performed at this site. These studies have been conducted by Derecktor Shipyard, the Navy Base and the Northern Division. All of these reports have not been made available to the public. In addition there has not been a comprehensive report which combines the information from all of these studies. Based upon the discussions in this section of the report it appears that the results of these studies were utilized in the selection of the sediment sample locations. The Division requests that this information be included in the Work Plan to allow for proper review of

the proposed sample locations. The Division is not requesting or anticipating the need to include an elaborate report in the Work Plan. The Division simply recommends utilizing figures and/or tables which depict contaminant distribution at the site.

9. **Addendum B, Section 4.1.2, Biota Sampling Plan:**
Page 20, Paragraph 2.
Addendum C, Section 4.1.2, Biota Sampling Plan:
Page 22, Paragraph 5.

This section of the report indicates that mussel deployments will be used at the site.

The report should indicate the proposed depth of the mussel deployment, that is how many centimeters above the sediment. The Division recommends placing the deployments in intimate contact with the sediment. If mussels are not suited for this test the Division recommends utilizing clams, oysters, or other suitable bivalves.

10. **Addendum B, Section 4.1.3 Geophysical/Hydrographic sampling plan:**
Page 20, Paragraph 5.
Addendum C, Section 4.1.3 Geophysical/Hydrographic sampling plan:
Page 23, Paragraph 3.

This section of the report outlines the geophysical/hydrographic investigations to be conducted at the site.

The report should indicate that the results of these studies will be used in conjunction with other information to fine tune sediment sample locations.

11. **Addendum B, Section 4.1.3 Geophysical/Hydrographic sampling plan:**
Page 20, Paragraph 5.

The Work Plan has delineated the proposed location of the transects.

The Work Plan has not proposed placing a transect in the area in between the piers (area of proposed station 7). Considering the past uses of this area, a transect should be performed.

12. **Addendum B, Section 4.2.1, Chemical Analysis:**
Page 22, Paragraph 1.
Addendum C, Section 4.2.1, Chemical Analysis:
Page 22, Paragraph 1.

This section of the report discusses the chemical analysis to be performed at the site.

Due to the nature of the contaminants at the site the Division recommends analyzing sediment samples for TPH.

13. **Addendum B, Section 4.2.3, Biological Assays:**
Page 23, Paragraph 2.
Addendum C, Section 4.2.3, Biological Assays:
Page 25, Paragraph 7.

"All surface soil samples will be evaluated for bulk sediment and pore water toxicity using the amphipod 10 day acute test and the sea urchin fertilization test respectively."

As discussed previously the Division feels that toxicity test should be performed on deep cores. Therefore, this section of the report should be modified accordingly.

14. **Addendum B, Section 4.2.3, Biological Assays:**
Page 23, Paragraph 4.
Addendum C, Section 4.2.3, Biological Assays:
Page 26, Paragraph 2.

This section of the report discusses the diversity analysis to be conducted at the site. The information available in tables B/C 4-2 would seem to indicate that these analysis will be conducted on near shore and far shore samples. Please confirm. If this is not the case, the Division recommends conducting diversity analysis on near and far shore samples.

15. **Addendum B, Figure B4-1:**
Proposed URI/SAIC Sampling Locations.
Addendum C, Figure C4-1:
Proposed URI/SAIC Sampling Locations.

This figure depicts the location of the samples to be collected from the sites.

Due to the scale of the figures the Division recommends including a table which delineates the distance of the samples from the shore.

16. **Addendum C, Table C2-1:**
Organic Contaminants in Surface Sediment of Coasters Harbor.

Please provide the measurement units for this table.

17. **Addendum B, Table B2-4:**
Exposure point measurement for Derecktor Shipyard.
Addendum C, Table C2-4:
Exposure point measurement for Old Firefighter Training Area.

The table should include a footnote which will delineate which pathogens indicators will be measure or quantified.

18. **Addendum C, Figure C4-1:**
Proposed URI/SAIC Sampling Locations.

The area encompassed by this figure is to large too provide useful information concerning the locations of the samples with respect to the site. The Division recommends providing a figure with a coverage which is similar in area to C2-

19. **Addendum C, Figure C4-2:**
Proposed URI/SAIC Sampling Locations.

This figure delineates the proposed transects locations.

The Navy may want to consider placing a transect along the side or close to the causeway bridge as it may provide important information.